

Implementation and Technology Transfer

What is the point of performing research? Innovation, product testing, problem solving, curiosity? Well, sure, but the ultimate objective of the NHDOT Research Office is **IMPLEMENTATION!** We accomplish that goal by sharing what we have learned and by helping to move successful findings into practice. The Research staff, Research Advisory Council (RAC), and Technical Advisory Group (TAG) members are all active in implementation and technology transfer to ensure that the results of completed projects are advanced throughout the Department:

- An implementation plan is required as part of each final report. Principal investigators are expected to present their research at NHDOT RAC meetings, research showcases, and other research events.
- The project TAG assesses the research results and advises the Department on how to utilize the research findings. The TAG recommends what actions should be taken, such as: Specification, Policy, or Design Changes, Training, Additional Research. TAG recommendations are forwarded to appropriate Bureaus for comment, followed by submission to project Sponsors for consideration. The TAG monitors progress of the planned implementation process until complete.
- The *Focus on Research* newsletter is distributed throughout the Department to maintain an awareness of ongoing and completed projects.
- Research results are shared with the Technology Transfer Center at UNH for distribution to cities and towns.
- The NHDOT Research website is regularly updated to provide current information related to promising research results.

In addition to implementation of NHDOT-sponsored research, the Research staff is a conduit for technology transfer activities associated with research conducted outside NHDOT. This function includes:

1. The transfer of staff expertise to the operating units of the Department for problem solving.
2. Distributing promising research results from other organizations to the appropriate Bureaus.
3. Providing access to available workshops, seminars and demonstration projects.
4. Attending important regional and national meetings and disseminating associated information throughout the Department.

Feature Project *Implementing Successful Research*

In October 2000, Corrosion Control Consultants and Labs, Inc. of Kentwood, MI, completed a NHDOT research study titled "Alternate Paint Systems for Overcoating". The study recommended surface preparation, painting and maintenance techniques for applying a three-coat Moisture-Cure Urethane (MCU) paint system on previously painted steel bridges. The paint system was recommended because of its ability to increase the length of the painting season; humidity does not prevent use of the paint, and it has a lower temperature threshold than previously used alkyd oil based paints. These recommendations were readily adopted by the Department's contracted bridge maintenance program, but NHDOT forces needed new equipment and training to implement the suggestions.



The Bridge Maintenance Bureau training program occurred from Winter 2002 to Fall 2003. Kyle Fox of Bridge Maintenance and Jerry Zoller of Bridge Design attended the Steel Structures Painting Council 2002 Industrial Protective Coatings Conference. Kyle also attended a class on the Fundamentals of Protective Coatings for Industrial Structures. Bridge Maintenance hired a consultant to instruct 21 field personnel on maintenance overcoating. The crews received classroom and field training in the surface preparation and coating application techniques for MCU paints in March 2003.

Two 5,000-psi pressure washers, testing equipment and an MCU paint system were purchased as part of a 3-bridge trial completed between July and November 2003 by Bridge Maintenance Crews 13-B and 15. The trials provided a good sampling of overcoat strategies encountered by Bridge Maintenance. The Lee Hook Rd. bridge in Lee had a good existing coating system with rusty areas bleeding through that were cleaned and overcoated. The Rush Rd. bridge in Henniker had a failing paint system. This required removal of most of the old system before application of the MCU system. The Sarah Mildred Long Bridge over the Piscataqua River in Portsmouth was in a marine environment with very thick existing coatings. It was segmentally cleaned, surface prepared and painted. A follow-up class was conducted in the field by the consultant October 1, 2003 to answer questions from the two crews involved in the trials and to demonstrate application techniques.



Kyle Fox reported that the Bridge Maintenance Bureau will continue using both the MCU and the oil alkyd systems in the short run as it further refines how to address coating problems to promote preservation of existing facilities rather than replacing them.

Announcements

CHECK THIS OUT! The Research Office has recently launched its new web site. Keep up-to-date with research activities, past projects, newsletters, research links and more! Visit us at <http://www.nh.gov/dot/materialsandresearch/research/index.htm>. Our thanks goes to Tom Gilligan of ITS for his work in making this a reality.

It's that time again! The Research Office is soliciting Problem Statements for its 2004 Research Program. The NHDOT RAC will meet April 14, 2004 to rate and select research topics for this year. Suggestions are not limited to NHDOT employees, and all transportation-related research topics will be considered for the program. Research suggestions may be submitted by mail on the form on the reverse of this newsletter, also available by download through the Research Office web site at the above address. Call 271-3151 for more information.